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# Fax

**To:** Examiner Ayal I. Sharon**From:** Owen J. Gamon

Group Art Unit: 2123

Serial No: 09/672,043

Filed: September 29, 2000

Confirmation Number: 1185

Title: Technique for Configuring  
Processors In System with Logical  
Partitions

Attorney Docket: ROC920000177US1

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S/N 09/672,043PATENTIN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jeffrey Jay Scheel, et al.

Examiner: Ayal I. Sharon

Serial No.: 09/672,043

Group Art Unit: 2123

Filed: September 29, 2000

Docket: ROC920000177US1

Title: TECHNIQUE FOR CONFIGURING PROCESSORS IN SYSTEM WITH  
LOGICAL PARTITIONSAPPEAL BRIEFTO THE BOARD OF PATENT APPEALS AND INTERFERENCES  
OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

## TRANSMITTED BY FACSIMILE

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Commissioner for Patents

P.O Box 1450

Alexandria, VA 22313-1450

Sir:

This brief is presented in support of the Notice of Appeal filed on September 15, 2004, from the Final Rejection of claims 1-14 of the above identified application, as set forth in the Final Office Action mailed on March 15, 2004.

Please charge \$340.00 to Deposit Account 09-0465 to cover the fee for filing an appeal brief. Please charge any additional fees or credit overpayment to Deposit Account 09-0465. Appellant respectfully requests reversal of the Examiner's rejection of pending claims 1-14.

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**1. Real Party in Interest**

The real party in interest, in addition to the inventors Jeffrey Jay Scheel and Dennis James Schmidt, is the assignee, International Business Machines Corporation, a corporation organized and existing under and by virtue of the laws of the State of New York, and having an office and place of business at New Orchard Road, Armonk, New York 10504.

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## **2. Related Appeals and Interferences**

There are no other prior or pending appeals, interferences, or judicial proceedings, which may be related to, directly affect or be directly affected by, or have a bearing on the Board's decision.

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### 3. Status of Claims

On September 15, 2004, Appellant appealed from the final rejections of claims 1-14 made in the Final Office Action dated June 15, 2004. Finally rejected claims 1-14 on appeal are set forth in the Claims Appendix.

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#### **4. Status of Amendments**

After the Final Office Action, Appellant did not amend the claims.

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### **5. Summary of Claimed Subject Matter**

With reference to claim 1, an embodiment of the invention includes a computerized method of configuring processors in a target system, which is described, for example, at page 4, lines 2-4 of the specification and Fig. 2, element 200; prompting a user to select workload units, which is described, for example, at page 7, lines 13-16 and Fig. 1; prompting the user to input a quantity of processing power required in terms of partition workload capacity required, which is described, for example, at page 7, lines 16-18 and Fig. 1; obtaining a system work capacity, which is described, for example, at page 7, lines 26-28 and Fig. 1; calculating the number of partition processors, which is described, for example, at page 8, lines 15-16 and Fig. 1; wherein the number of partition processors equals the total number of system processors, times the partition workload capacity divided by the system work capacity, which is described, for example, at page 8, lines 15-19 and Fig. 1; testing the calculated number of partition processors, which is described, for example, at page 8, lines 20-22 and Fig. 1; if within the predetermined percentage, then recommending using dedicated processors, otherwise recommending using shared processors, which is described, for example, at page 8, lines 22-26 and Fig. 1; displaying the calculated number of partition processors and the recommended use of dedicated or shared processors, which is described, for example, at page 8, lines 30-31, page 9, lines 1-3, and Fig. 1; and after validation, configuring the processors, which is described, for example, at page 9, lines 2-3 and Fig. 1.

With reference to claim 3, an embodiment of the invention calculates the number of partition processors with a resolution of at least two digits to the right of the decimal, which is described, for example at page 8, line 19.

With reference to claim 4 an embodiment of the invention has a predetermined percentage of the next full processor increment of twenty-five percent, which is described, for example at page 8, lines 20-24.

With reference to claim 5, an embodiment of the invention includes a processing system running multiple operating system images (same or different) having logical partitions and implementing the method according to claim 1, which is described, for example at page 1, lines 27-30, page 2, lines 1-3, and Fig. 2, element 200.



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With reference to claim 6, an embodiment of the invention includes: a computer program product, which is described, for example at page 9, lines 12-16; a recording medium which is described, for example at page 9, lines 12-16; and instruction means, the structure, materials, or acts for which are described, for example, at page 1, line 11, page 7, lines 13-30, page 8, lines 1-30, page 9, lines 1-16, Fig. 1, Fig. 2, elements 200, 202, and 203.

With reference to claim 7, an embodiment of the invention includes a computer system having processing means, storage means, input means, and display means, and operating a graphical user interface, the structure, materials, or acts for which are described, for example, at page 9, lines 5-12 and Fig. 2, elements 200, 201, 202, 203, 204, and 205.

With reference to claim 8, an embodiment of the invention includes: a graphical user interface, which is described, for example, at page 9, line 9 and Fig. 2, element 203; means for prompting a user to select workload units, the structure, materials, or acts for which are described, for example, at page 7, lines 13-16 and Fig. 1; means for prompting the user to input a quantity of processing power required in terms of partition workload capacity required, the structure, materials, or acts for which are described, for example, at page 7, lines 16-18 and Fig. 1; means for obtaining a system work capacity, the structure, materials, or acts for which are described, for example, at page 7, lines 26-28 and Fig. 1; means for calculating the number of partition processors, the structure, materials, or acts for which are described, for example, at page 8, lines 15-16 and Fig. 1; wherein the number of partition processors equals the total number of system processors, times the partition workload capacity divided by the system work capacity, the structure, materials, or acts for which are described, for example, at page 8, lines 15-19 and Fig. 1; means for testing the calculated number of partition processors, the structure, materials, or acts for which are described, for example, at page 8, lines 20-22 and Fig. 1; means for recommending using dedicated processors if within the predetermined percentage, and otherwise recommending using shared processors, the structure, materials, or acts for which are described, for example, at page 8, lines 22-26 and Fig. 1; means for displaying the calculated number of partition processors and the recommended use of dedicated or shared processors, the structure, materials, or acts for which are described, for example, at page 8, lines 30-31, page 9, lines 1-3, and Fig. 1; and

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means for configuring the processors, the structure, materials, or acts for which are described, for example, at page 9, lines 2-3 and Fig. 1.

With reference to claim 12, an embodiment of the invention includes a processing system running multiple operating system images having logical partitions and implementing a graphical user interface, which is described, for example at page 1, lines 27-30, page 2, lines 1-3, page 9, lines 7-11, and Fig. 2, elements 200 and 203.

With reference to claim 13, an embodiment of the invention includes a computer program product, which is described, for example at page 9, lines 12-16; a recording medium, which is described, for example at page 9, lines 12-16; and instruction means, the structure, materials, or acts for which are described, for example, at page 9, lines 8-12 and Fig. 2, element 203.

With reference to claim 14, an embodiment of the invention includes a computer system, which is described, for example, at page 9, line 5 and Fig. 2, element 200; partition processing means for running multiple operating system images, the structure, materials, or acts for which are described, for example, at page 1, lines 27-28, page 9, line 8 and Fig. 2, element 201; storage means for storing a program and data, the structure, materials, or acts for which are described, for example, at page 9, lines 8-9 and Fig. 2, elements 202 and 203; an input device, which is described, for example, at page 9 line 10 and Fig. 2, element 204; display means, the structure, materials, or acts for which are described, for example, at page 9, lines 7-11 and Fig. 2, element 205; wherein the program implements the graphical user interface, which is described, for example, at page 9, lines 9-10 and Fig. 2, element 203; wherein the program when executed on one of the processors comprises prompting the user to select workload units, which is described, for example, at page 7, lines 13-16 and Fig. 1; prompting the user to input a quantity of processing power required in terms of partition workload capacity required, which is described, for example, at page 7, lines 16-18 and Fig. 1; obtaining a system work capacity, which is described, for example, at page 7, lines 26-28 and Fig. 1; calculating a number of partition processors, wherein the number of partition processors equals a total number of the processors multiplied by a partition workload capacity and divided by a system work capacity, which is described, for example, at page 8, lines 15-19 and Fig. 1; testing the calculated number of partition processors, which is

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described, for example, at page 8, lines 20-22 and Fig. 1; if within the predetermined percentage, then recommending using dedicated processors, otherwise recommending using shared processors, which is described, for example, at page 8, lines 22-26 and Fig. 1; displaying the calculated number of partition processors and the recommended use of dedicated or shared processors, which is described, for example, at page 8, lines 30-31, page 9, lines 1-3, and Fig. 1; and after validation, configuring the processors, which is described, for example, at page 9, lines 2-3 and Fig. 1.

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**6. Grounds of Rejection to be Reviewed on Appeal**

Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Borden, "Multiple Operating Systems on One Processor Complex" (hereinafter "Borden").

Claims 1-2, 5-9, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden, in view of AS/400 Logical Partitions Hardware Planning Guide (hereinafter "AS/400 reference") and Official Notice.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden in view of the AS/400 reference, Official Notice, and LPAR Configuration and Management.

Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden in view of the AS/400 reference, Official Notice, and LPAR Configuration and Management.

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## 7. Argument

### A) The Applicable Law

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, "[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Holst & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The *Fine* court stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so." *Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation

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of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992). At the same time, however, although it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979)).

A factor cutting against a finding of motivation to combine or modify the prior art is when the prior art teaches away from the claimed combination. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path the applicant took. *In re Gurley*, 27 F.3d 551, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994); *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966); *In re Spinnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256, 138 USPQ 243, 245 (C.C.P.A. 1963).

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). Furthermore, claims must be interpreted in light of the specification, claim language, other claims and prosecution history. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987), *cert. denied*, 481 U.S. 1052 (1987). At the same time, a prior patent cited as a § 103 reference must be considered in its entirety, "i.e. as a whole, including portions that lead away from the

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invention." *Id.* That is, the Examiner must, as one of the inquiries pertinent to any obviousness inquiry under 35 U.S.C. § 103, recognize and consider not only the similarities but also the critical differences between the claimed invention and the prior art. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir. 1990). Finally, the Examiner must avoid hindsight. *Id.*

As explained in M.P.E.P. § 2112, the express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. But, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Further, "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

## B) Discussion of the Rejections

1. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Borden, "Multiple Operating Systems on One Processor Complex" (hereinafter "Borden").

### Claim 14

Appellant respectfully submits that the Examiner did not make a prima facie case of anticipation under 35 U.S.C. 102(b) for the reasons argued below.

Claim 14 recites: "prompting the user to input a quantity of processing power required in terms of partition workload capacity required," which is not taught or suggested by Borden. Borden merely recites: "A user must specify the following items: The names of the partitions to be used[,] The I/O configuration[,], The storage configuration[, and] The processor configuration." Borden at page 107-109 ("Partition Definition"). Thus, the Borden user is required to directly specify the processor configuration, which influences how much partition workload capacity is available, which is a backwards relationship between processor configuration and workload capacity from the relationship of "processing power required"

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and "partition workload capacity" recited in claim 14: "a quantity of processing power required in terms of partition workload capacity required." Further, Borden does not teach "a partition workload capacity required" as recited in claim 14 because the Borden "names," "storage configuration," and "processor configuration" do not teach or suggest "partition workload capacity," so Borden does not teach or suggest "prompting the user to input a quantity of processing power required in terms of partition workload capacity required," as recited in claim 14.

Claim 14 further recites: "obtaining a system work capacity for the computer system in the appropriate units from a look-up table." The Examiner impermissibly ignored this element of claim 14 and made no argument with respect to it, so the Examiner did not make a *prima facie* case of anticipation under 35 U.S.C. 102(b). Further, elsewhere in the Office Action with respect to claim 1, the Examiner admitted that Borden does not teach "obtaining a system work capacity for the computer system in the appropriate units from a look-up table," as recited in claim 14. Further, since the Borden user specifies the processor configuration, as described in Borden at page 107-109 ("Partition Definition"), Borden has no reason to obtain "a system work capacity ... from a look-up table," as recited in claim 14 because Borden is not calculating a number of partition processors, as further described below.

Claim 14 further recites: "calculating the number of partition processors, wherein the number of partition processors equals the total number of system processors, times the partition workload capacity divided by the system work capacity," which is also not taught or suggested by Borden. The Examiner also impermissibly ignored this element of claim 14 and made no argument with respect to it, so the Examiner did not make a *prima facie* case of anticipation under 35 U.S.C. 102(b). Further, elsewhere in the Office Action with respect to claim 1, the Examiner admitted that Borden does not teach "calculating the number of partition processors, wherein the number of partition processors equals a total number of the processors multiplied by a partition workload capacity and divided by a system work capacity," as recited in claim 14. Further, Borden has no need to calculate the number of partition processors because the Borden user specifies the processor configuration, as previously argued above.



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Claim 14 further recites: "testing the calculated number of partition processors to determine if it is within a predetermined percentage of a next full processor increment; if within the predetermined percentage, then recommending using dedicated processors, otherwise recommending using shared processors; displaying the calculated number of partition processors and the recommended use of dedicated or shared processors to the user for validation or change," which is also not taught or suggested by Borden. The Examiner also impermissibly ignored this element of claim 14 and made no argument with respect to it, so the Examiner did not make a *prima facie* case of anticipation under 35 U.S.C. 102(b). Further, elsewhere in the Office Action with respect to claim 1, the Examiner admitted that Borden does not teach "testing the calculated number of partition processors to determine if it is within a predetermined percentage of a next full processor increment; if within the predetermined percentage, then recommending using dedicated processors, otherwise recommending using shared processors; displaying the calculated number of partition processors and the recommended use of dedicated or shared processors to the user for validation or change," as recited in claim 14. Further, Borden has no need to test "the calculated number of partition processors" because Borden does not calculate a number of partition processors, and the Borden user specifies the processor configuration, as previously argued above.

Claim 14 further recites: "configuring the processors according to the calculated number of partition processors and the recommended use, based on the quantity of processing power required in terms of the partition workload capacity required," which is not taught or suggested by Borden. The Examiner also impermissibly ignored this element of claim 14 and made no argument with respect to it, so the Examiner did not make a *prima facie* case of anticipation under 35 U.S.C. 102(b). Borden does not teach or suggest this element because the Borden user specifies the processor configuration. Thus, Borden does not teach a "calculated number of partition processors" because the user specified the processor configuration, so there is no reason to calculate a number of processors. Further, Borden does not teach a "recommended use" because Borden does not make recommendations since the user specifies the processor configuration. Further, Borden does not teach "partition workload capacity required" because the Borden user specifies the processor configuration,

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which yields the partition workload capacity, which is a backwards relationship from claim 14, as previously argued above.

2. Claims 1-2, 5-9, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden, in view of AS/400 Logical Partitions Hardware Planning Guide (hereinafter "AS/400 reference") and Official Notice.

Appellant respectfully submits that the claims are patentable over the references because not all the claim elements are taught or suggested by the references, alone or in combination, for the reasons argued below.

Claims 1-2, 5-9, and 12-13

Claim 1 recites: "prompting the user to input a quantity of processing power required in terms of partition workload capacity required," which is not taught or suggested by the hypothetical combination of the references. The Examiner argued that this element is taught by Borden at pages 107-109 ("Partition Definition"). Appellant respectfully disagrees because Borden merely recites: "A user must specify the following items: The names of the partitions to be used[,] The I/O configuration[,] The storage configuration[, and] The processor configuration." Thus, the Borden user is required to directly specify the processor configuration, which influences how much partition workload capacity is available, which is a backwards relationship between processor configuration and workload capacity from the relationship of "processing power required" and "partition workload capacity" recited in claim 14: "a quantity of processing power required in terms of partition workload capacity required." Thus, Borden does not teach or suggest a "a partition workload capacity required" as recited in claim 1 because "names," "storage configuration," and "processor configuration" do not teach or suggest "partition workload capacity," so Borden does not teach or suggest "prompting the user to input a quantity of processing power required in terms of partition workload capacity required," as recited in claim 1. The AS/400 reference and the Official Notice also do not teach or suggest "prompting the user to input a quantity of processing power required in terms of partition workload capacity required," as recited in claim 1, and the Examiner Action did not rely on them for such an element.

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The Examiner argued that Borden recites that "At activation the resource requirements of the partition are compared with the available physical resources to determine if the activation will be allowed," so it is inherent that "the resource requirements of the partition" have been entered by the user, which teaches "prompting the user to input a quantity of processing power required in terms of partition work load capacity required."

Appellant respectfully disagrees because inherency requires the Examiner to provide "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art," Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). Appellant respectfully submits that "prompting the user to input a quantity of processing power required in terms of partition work load capacity required," as recited in claim 1, does not necessarily flow from Borden because the Borden "resource requirements" may have many possible interpretations that do not require "partition work load capacity" or "prompting the user," as recited in claim 1. For example, to implement the Borden comparing of resource requirements, a hypothetical partition manager might sum the total size of all programs assigned to the partition and determine whether the sum is less than the available memory size. As another example, the partition manager might detect that a browser is assigned to the partition, determine that a browser needs a network connection, and determine whether a modem or network interface card is available. Both of these examples illustrate comparing resource requirements (memory and a network connection) of the partition with available physical resources without any requirement for "prompting the user to input a quantity of processing power required in terms of partition work load capacity required," as recited in claim 1. In fact, both of the aforementioned hypothetical examples are unrelated to a user, processing power, or workload capacity. Thus, "prompting the user to input a quantity of processing power required in terms of partition work load capacity required," as recited in claim 1, does not necessarily flow from Borden, so this claim 1 element is not inherent in Borden.

Claim 1 further recites: "calculating the number of partition processors; wherein the number of partition processors equals the total number of system processors, times the

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partition workload capacity divided by the system work capacity," which is also not taught or suggested by the hypothetical combination of the references for the reasons argued below.

Thus, in claim 1, the number of partition processors is calculated based, in part, on the partition workload capacity, which was supplied by the user. Once again, this is backwards from Borden, where the user is required to directly specify the processor configuration, which influences how much partition workload capacity would be available. Hence, Borden teaches away from claim 1, which is compelling evidence of non-obviousness.

The AS/400 reference recites at page 9: "Relative logical partition performance = (CPW) (# processors in the logical partition/total # of processors)," and the Examiner argued that it would have been obvious to solve this equation for the number of processors in the logical partition. Appellant respectfully disagrees because the AS/400 reference describes the aforementioned equation in the context of: "In creating logical partitions, you can assign any number of available processors to a logical partition. You can assign processor as long as you have at least one processor for each logical partition." Thus, the AS/400 reference describes "you" (the user) assigning processors and then calculating the performance based in part on the number of processors assigned by the user. In contrast, claim 1 recites that the computerized method calculates "the number of partition processors" based on "the total number of system processors, times the partition workload capacity divided by the system work capacity." The AS/400 reference has no need or motivation to calculate the number of partition processors based on partition workload capacity, as recited in claim 1, because in the AS/400 reference the number of available processors is predetermined by the user. Thus, analogous to Borden, as previously argued above, in the AS/400 reference the relationship of partition processors to partition workload capacity is backwards from claim 1. Thus, the AS/400 reference teaches away from claim 1, which is compelling evidence of non-obviousness.

Claim 1 further recites: "testing the calculated number of partition processors to see if it is within a predetermined percentage of the next full processor increment," which is not taught or suggested by the references for the reasons argued below. The Examiner took official notice that it would have been obvious to include a margin of error in a calculation. Appellant respectfully traverses this official notice and requests the Examiner to provide a

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reference that describes "testing the calculated number of partition processors to see if it is within a predetermined percentage of a next full processor increment," as recited in claim 1. Absent a reference, it appears that the Examiner is using personal knowledge, so the Examiner is respectfully requested to submit an affidavit as required by 37 C.F.R. § 1.104(d)(2).

Claim 1 further recites: "configuring the processors according to the calculated number of partition processors and the recommended use, based on the quantity of processing power required in terms of the partition workload capacity required." None of the references, alone or in combination teach or suggest this element because Borden recites "a user must specify ... [t]he processor configuration" (Borden at Partition Definition) and the AS/400 reference recites that "you" (the user) assign the processors (AS/400 reference at page 9). Hence, both Borden and the AS/400 reference teach away from "configuring the processors according to the calculated number of partition processors and the recommended use, based on the quantity of processing power required in terms of the partition workload capacity required," as recited in claim 1, which is compelling evidence of non-obviousness.

The Examiner argued that Borden on page 115 recites: "If any partition is not able to use its target share of the physical processor resources, its unused allotment will be divided among the remaining competing partitions." But, this quotation from Borden even further teaches away from Appellant's claim 1 because Borden describes accepting a user specified processor configuration and then dividing unused processor allotments among competing partitions if a partition is not able to use its share. Hence, if a Borden partition happens to not use its processor allotment, Borden divides unused processors among other partitions without regard to whether a user-specified partition workload capacity (in any partition) needs the unused processors because Borden has no user-specified partition workload capacity, as recited in claim 1. Thus, Borden uses a different basis of processor configuration from the "configuring ... based on .. the partition workload capacity required," as recited in claim 1, and that different basis teaches away from claim 1.

Independent claim 8 contains similar elements as previously argued above for claim 1 and is patentable over the references for similar reasons. Claims 2-7 and 9-13 are dependent

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on claims 1 and 8, respectively, and are patentable over the references for the reasons argued above, plus the elements in the claims.

3. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden in view of the AS/400 reference, Official Notice, and LPAR Configuration and Management hereinafter "LPAR."

#### Claims 3-4

Claims 3-4 are patentable over Borden, the AS/400 reference, and the Official Notice for the reasons argued above. Claims 3-4 are dependent on claim 1, and LPAR adds nothing to the deficiencies in the references and official notice as previously argued above for claims 1. In regards to claims 3 and 4, the Examiner relied on LPAR, page 5, which recites: "You can specify processing power in capacity increments of .01 processing units" and "We recommend that you use .25 as the minimum processing units per partition." Thus, LPAR describes "you" (the user) specifying or allocating processing units to partitions. In contrast, claims 3 and 4 depend on claim 1, which is "calculating the number of partition processors." Since LPAR at page 5 describes the user specifying processing power, the LPAR reference teaches away from Appellant's claims in a similar manner as Borden teaches away from Appellant's claims, which is compelling evidence of non-obviousness.

4. Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden in view of the AS/400 reference, Official Notice, and the LPAR Reference.

#### Claims 8-13

Claims 8-13 include similar elements as previously argued above with respect to claims 1-6 and are patentable over the references for similar reasons.

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**Conclusion**

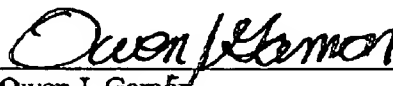
Appellant respectfully requests reversal of the above rejections. If the Board is of the opinion that any rejected claim may be allowable in amended form, then Appellant also respectfully requests a statement to that effect.

Respectfully submitted,

Jeffrey Jay Scheel, et al.  
By their Representative,

Date November 15, 2004

By

  
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### **8. CLAIMS APPENDIX**

1. A computerized method of configuring processors in a target system, comprising:
  - prompting a user to select workload units to use in the configuration of the processor in the target system;
  - prompting the user to input a quantity of processing power required in terms of partition workload capacity required;
  - obtaining a system work capacity for the target system in the appropriate units from a look-up table;
  - calculating the number of partition processors;
  - wherein the number of partition processors equals the total number of system processors, times the partition workload capacity divided by the system work capacity;
  - testing the calculated number of partition processors to see if it is within a predetermined percentage of the next full processor increment;
  - if within the predetermined percentage, then recommending using dedicated processors, otherwise recommending using shared processors;
  - displaying the calculated number of partition processors and the recommended use of dedicated or shared processors to the user for validation or changing of the values; and
  - after validation, configuring the processors according to the calculated number of partition processors and the recommended use, based on the quantity of processing power required in terms of the partition workload capacity required.
2. The method according to claim 1, wherein the workload units to use in the configuration of the processor in the target system are in commercial processing workload (CPW) units, transaction processing performance council (TPC-C) units.
3. The method according to claim 1, wherein the number of partition processors calculated has a resolution of at least two digits to the right of the decimal.



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4. The method according to claim 1, wherein the predetermined percentage of the next full processor increment is twenty-five percent.

5. A processing system running multiple operating system images (same or different) having logical partitions and implementing the method according to claim 1.

6. A computer program product, comprising:  
a recording medium; and  
instruction means, disposed on the recording medium, for causing a computer to implement the method of configuring processors in a target system according to claim 1.

7. A computer system having processing means, storage means, input means, and display means, and operating a graphical user interface utilizing the method according to claim 1.

8. A graphical user interface comprising:  
means for prompting a user to select workload units to use in configuration of processors in a target system;  
means for prompting the user to input a quantity of processing power required in terms of partition workload capacity required;  
means for obtaining a system work capacity for the target system in the appropriate units from a look-up table;  
means for calculating the number of partition processors;  
wherein the number of partition processors equals the total number of system processors, times the partition workload capacity divided by the system work capacity;  
means for testing the calculated number of partition processors to see if it is within a predetermined percentage of the next full processor increment;  
means for recommending using dedicated processors if within the predetermined percentage, and otherwise recommending using shared processors;

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means for displaying the calculated number of partition processors and the recommended use of dedicated or shared processors to the user for validation or changing of the values; and

means for configuring the processors according to the calculated number of partition processors and the recommended use, based on the quantity of processing power required in terms of the partition workload capacity required.

9. The graphical user interface according to claim 8, wherein the workload units to use in the configuration of the processor in the target system are in commercial processing workload (CPW) units, transaction processing performance council (TPC-C) units.

10. The graphical user interface according to claim 8, wherein the number of partition processors calculated has a resolution of two digits to the right of the decimal.

11. The graphical user interface according to claim 8, wherein the predetermined percentage of the next full processor increment is twenty-five percent.

12. A processing system running multiple operating system images (same or different) having logical partitions and implementing the a graphical user interface according to claim 8.

13. A computer program product, comprising:  
a recording medium; and  
instruction means, disposed on the recording medium, for causing a computer to implement the graphical user interface according to claim 8.

14. A computer system comprising:  
partition processing means for running multiple operating system images;  
storage means for storing a program and data;  
an input device for inputting data; and  
display means for displaying a graphical user interface to a user;

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wherein the program implements the graphical user interface for configuring processors, wherein the program when executed on one of the processors comprises.

prompting the user to select workload units to use in the configuration of the processors;

prompting the user to input a quantity of processing power required in terms of partition workload capacity required;

obtaining a system work capacity for the computer system in the appropriate units from a look-up table;

calculating a number of partition processors, wherein the number of partition processors equals a total number of the processors multiplied by a partition workload capacity and divided by a system work capacity;

testing the calculated number of partition processors to determine if it is within a predetermined percentage of a next full processor increment;

if within the predetermined percentage, then recommending using dedicated processors, otherwise recommending using shared processors;

displaying the calculated number of partition processors and the recommended use of dedicated or shared processors to the user for validation or change; and

after validation, configuring the processors according to the calculated number of partition processors and the recommended use, based on the quantity of processing power required in terms of the partition workload capacity required.